Applicant: Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 : 04/27/2005

Filed Page

: 2 of 12

IN THE CLAIMS:

(Currently Amended) An Electrical electrical switching device comprising[:] 1.

At least one electrical contact able to be kept in a stable position by magnetic means, [-]

comprising which contact comprises:

at least a first part comprising at least a first magnetizable element and a first contact [-]

zone associated with said magnetizable element,

at least a second moveable part comprising at least a second first magnetic element and a [-]

second contact zone associated with said second first magnetic element, said the second

movable part having at least a first stable position to keep wherein a first electrical contact is

kept closed between the first and second contact zones and a second stable position to keep

wherein said first electrical contact is kept open, and

electromagnetic actuating means acting on the second movable part to make for causing [-]

the latter to change position and comprising at least a first electromagnetic coil wound onto said

at least a first magnetizable element of the first part to act in attraction or repulsion on at least for

attracting or repelling a second first magnetic element of the second movable part and to perform

a change of for changing the stable state of said movable part,

the first magnetizable element or second the first magnetic element comprising at least

ene a permanent magnetization part located in proximity to a contact zone to keep for keeping

- 2 -

Applicant: Pierre Bafteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005

Page : 3 of 12

stable position.

the first electrical contact closed and exert for exerting a contact pressure between the first and second contact zones by a magnetic attraction exerted directly between the first magnetizable element and the second first magnetic element when the movable part is in its first

- 2. (Currently Amended) The switching Switching device according to claim 1, wherein the electromagnetic actuating means comprise at least a second electromagnetic coil wound onto at least a third second magnetizable element of the first part to act in attraction or repulsion on for attracting or repelling at least a second the first magnetic element of the second moveable part and to perform a change of for changing the stable state of said second movable part.
- 3. (Currently Amended) The switching Switching device according to claim 2, wherein the first and second electromagnetic coils are designed to be controlled controllable by electrical pulses to generate reverse magnetic fields performing a repulsion and an attraction to make for changing the stable position of the second movable part change between a first and a second stable position positions closing at least one electrical contact between a contact zone of the first part and a contact zone of the second movable part.
- 4. (Currently Amended) The switching Switching device according to claim2, wherein the first and second electromagnetic coils are designed to be controlled controllable by electrical pulses to generate magnetic fields of the same direction performing two repulsions to position for positioning the second movable part in a third stable position where wherein the contact zones of the second movable part are not in electrical contact with the contact zones of the first part.

Applicant: Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005

Page : 4 of 12

5. (Currently Amended) The switching Switching device according to claim1, wherein the

first part comprises a third second magnetizable element to keep for keeping the second movable

part in the second stable condition.

6. (Currently Amended) The switching Switching device according to claim 1, wherein the

second movable part comprises at least one permanent magnet arranged located in proximity to a

contact zone.

7. (Currently Amended) The switching Switching device according to claim 1, wherein the

second movable part is composed of comprises a material comprising a mainly permanent

magnetization part.

8. (Currently Amended) The switching Switching device according to claim 1, wherein the

permanent magnetization part or the permanent magnet have has a magnetic induction greater

than 1 tesla.

9. (Currently Amended) The switching Switching device according to claim 1, wherein the

second movable part has an elongate shape, is able to pivot, and comprises at least one contact

zone and one magnetic attraction zone towards at least one end thereof.

10. (Currently Amended). The switching Switching device according to claim 9, wherein the

second movable part comprises at least one contact zone at a first end thereof and at least one

permanent magnet at a first end and at a second end thereof.

- 4 -

· Applicant : Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed

: 04/27/2005

Page

: 5 of 12

(Currently Amended) The switching Switching device according to claim 1, wherein the 11. second movable part has a is flexible, constitution is able to be fixed by a point situated in a central zone thereof, and comprises at least one contact zone and one magnet towards at least one end thereof.

- (Currently Amended) The switching Switching device according to claim 11, wherein 12. the second movable part comprises at least one opening to a in said central zone.
- 13. (Currently Amended) The switching Switching device according to claim 1, wherein:

[-] the first part comprises the first magnetizable element associated with a first contact zone and a third second magnetizable element associated with a third contact zone, and

[-]the second movable part comprises a second contact zone towards a first end designed to be in contact with the first contact zone of the first part, and a fourth contact zone towards a second end designed to be in contact with the third contact zone of the first part, so that when in a first stable position of the movable part, the first and second contact zones are maintained to form a closed contact and the third and fourth contact zones form an open contact, and in a second stable position of the movable part, the third and fourth contact zones are maintained to form a closed contact and the first and second contact zones form an open contact.

14. (Currently Amended) The switching Switching device according to claim 13, wherein the first, second, third[,] and fourth contact zones are electrically connected to electrical connection means.

Applicant: Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005 Page: 6 of 12

Page : 6 of 12

15. (Currently Amended) The switching Switching device according to claim 13, wherein the second movable part comprises a first permanent magnet towards the first end thereof to operate for operating in conjunction with the first magnetizable element of the first part, and a second permanent magnet towards the second end thereof to operate for operating in conjunction with the third second magnetizable element of the first part.

- 16. (Currently Amended) The switching Switching device according to claim 13, comprising maintaining means to keep for keeping the second movable part in a third stable position wherein both the contact formed by the first and second contact zones and the contact formed by the third and fourth contact zones are open.
- 17. (Currently Amended) The switching Switching device according to claim 16, wherein the maintaining means comprise a support element in the form of which includes a flat part arranged located on the first part to receive for receiving a first side of the second movable part, and pressure means to keep for keeping a central zone of the second movable part against in contact with said support element.
- 18. (Currently Amended). <u>The switching Switching device according to claim 17</u>, wherein the pressure means are formed by is a spring.
- 19. (Currently Amended) The switching Switching device according to claim 17, wherein the pressure means are formed by comprise a third permanent magnet and a fourth third magnetizable element arranged located on the support element and on the central zone of the movable part.

· Applicant : Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005

Page : 7 of 12

20. (Currently Amended) <u>The switching Switching</u> device according to claim 1, comprising manual or mechanical actuating means acting on the second movable part to make for causing it

to change stable state.

21. (Currently Amended) The switching Switching device according to claim 1, wherein the

second movable part has a is flexible constitution, is able to be fixed by a point situated in a

central zone, and comprises at least one contact zone and a magnet with having two ends to form

for forming two contacts with contact zones of magnetizable elements of the first part, said two

contacts capable of being able to be closed simultaneously.

22. (Currently Amended) The switching Switching device according to claim 1, wherein

said at least one magnetic or magnetizable element enables is sufficiently electrically conductive

to permit an electric current designed to flow in at least one electrical contact to be conducted

through the material that constitutes it.

23. (Currently Amended) An Electromagnetic electromagnetic relay with having at least two

stable states comprising at least a first and a second electrical contact inputs and control inputs,

comprising at least one switching device according to claim 1, the first electrical contact input

being connected to the second movable part, the second electrical contact input being connected

to a first contact zone of the first part, and the control inputs being connected to at least a first

electromagnetic coil arranged located on at least a first magnetizable element of the first part.

-7-

· Applicant : Pierre Batteux Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005

Page : 8 of 12

24. (Currently Amended) A Relay relay according to claim 23, comprising at least a second electromagnetic coil connected to the control inputs and arranged located on at least a third second magnetizable element of the first part.

- 25. (Currently Amended) A Relay relay according to claim 23, having at least three stable states and comprising a third contact zone connected to a third contact input, and means for keeping the second movable part in a third stable position where wherein the electrical contacts between the first, second, and third contact zones are open, the first and second electromagnetic coils being designed to be commanded in attraction and repulsion for attracting and repelling to establish an electrical contact and in for double repulsion repelling to open the contacts.
- 26. (Currently Amended) An Electrical electrical apparatus comprising at least a-first and a second electrical contact inputs, comprising:

[-]at least one switching device according to claim 1 with having at least two stable positions, the first electrical contact input being connected to the second movable part, the second electrical contact input being connected to a first contact zone of the first part, and

[-]a control circuit connected to at least a first electromagnetic coil <u>arranged located</u> on a first magnetizable element of the first part.

27. (Currently Amended) <u>An Electrical electrical apparatus according to claim 26</u>, wherein the switching device comprises at least a second electromagnetic coil connected to the control circuit and <u>arranged located</u> on at least a <u>third second</u> magnetizable element of the first part.

Applicant: Pierre Batteux

Attorney's Docket No.: 28954.1431

Serial No.: 10/532,969 Filed: 04/27/2005

repelling to open the contacts.

Page : 9 of 12

28. (Currently Amended) An Electrical electrical apparatus according to claim 26, wherein the switching device has three stable states and comprises a third contact zone connected to a third contact input and means for keeping the second movable part in a third stable position where wherein the electrical contacts between the first, second, and third contact zones are open, the first and second electromagnetic coils being designed to be commanded in attraction and

repulsion to establish at least one electrical contact and in double repulsion for attracting and

- 29. (Currently Amended) <u>An Electrical electrical</u> apparatus according to claim 26, comprising manual or mechanical actuating means <u>for</u> acting on the second moving part to make it change stable state.
- 30. (Currently Amended) An Electrical electrical apparatus according to claim 26, wherein the control circuit comprises at least one control input able to receive for receiving control signals.
- 31. (Currently Amended) An Electrical electrical apparatus according to claim 30, wherein the control signals applied to the input can be are selected from the group consisting of polarization signals, pulse duration signals, and/or and number of pulse signals.
- 32. (Currently Amended) An Electrical electrical apparatus according to claim 26, wherein the control circuit comprises remote control input by communication bus to receive for receiving control signals.

Applicant: Pierre Batteux
Serial No.: 10/532,969
Attorney's Docket No.: 28954.1431

Filed : 04/27/2005 Page : 10 of 12

33. (Currently Amended) An Electrical electrical apparatus according to claim 26, wherein

the control circuit comprises remote control receipt means to receive for receiving control

signals.

34. (Currently Amended) An Electrical electrical apparatus according to claim 26, wherein

the control circuit comprises processing means to process for processing control signals and to

control for controlling the electromagnetic coils according to said signals.

35. (Currently Amended) An Electrical electrical apparatus according to claim 34, wherein

the processing means perform is for performing at least one function selected from the group

consisting of remote control switch, time, timer and/or and controlled switch functions.